

**SECTION 10 75 00
FLAGPOLES**

SPEC WRITER NOTE:

1. Use this section only for NCA projects.
2. Delete between //----// if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs.

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies materials, shipping and delivery protection, storage, handling, and installation of flagpoles to be installed in the project area indicated. Flagpoles shall be deluxe internal halyard fixed high dimensional, ground set, cone tapered, seamless tube flag poles together with concealed halyard, revolving truck, finial ball, flashing collar, anchors, fittings, and accessories.

1.2 RELATED WORK

- A. Excavation and backfill: Section 31 20 00, EARTH MOVING.
- B. Concrete for ground set flagpole: //Section 03 30 53, (SHORT FORM) CAST-IN-PLACE CONCRETE//Section 03 30 00, CAST-IN-PLACE CONCRETE//.

1.3 SUSTAINABILITY REQUIREMENTS

- A. Materials in this section may contribute towards contract compliance with sustainability requirements. See Section 01 81 11, SUSTAINABLE DESIGN REQUIRMENTS and Section 01 81 13, SUSTAINABLE CONSTRUCTION REQUIREMENTS, for project // local/regional materials, // low-emitting materials, // recycled content, // certified wood // _____// requirements.
- B. Biobased Material: For products designated by the USDA's BioPreferred® program, provide products that meet or exceed USDA recommendations for biobased content, subject to the products compliance with performance requirements in this Section. For more information regarding the product categories covered by the BioPreferred® program, visit <http://www.biopreferred.gov>.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Shop Drawings: Flagpole details of all parts & accessories, and list of all materials, including but not limited to: base with support plate

and grounding spike, lightning kit, pole, flash collar, revolving truck, internal halyard, cable assembly, winch detail w/lock, hooks, beaded retainer ring, counterweight, winch handle and finial ball, along with construction and installation details. Flagpole components shall match those for the main pole.

- C. Manufacturer's Literature and Data: Flagpole, base and all parts and accessories.

1.5 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by the basic designation only. Comply with applicable provisions and recommendations of the following, except as otherwise shown or specified.

SPEC WRITER NOTES:

1. Remove reference citations that do not remain in Part 2 or Part 3 of edited specification.
2. Verify and make dates indicated for remaining citations the most current at date of submittal; determine changes from date indicated on the TIL download of the section and modify requirements impacted by the changes.

- B. American Society for Testing and Materials (ASTM):

A167-99 (R2009)	Stainless and Heat-resisting Chromium-Nickel Steel Plate, Sheet and Strip
B209-10 (R2014)	Aluminum and Aluminum Alloy-Sheet and Plate
B241/B241M-12 (R2013)	Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Extruded Tube

- C. American National Standards Institute Inc. (ANSI):

ANSI/NAAMM 1001-97	Guide Specifications for Design of Metal Flagpoles Manual.
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1.6 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in the manufacture of metal flagpoles and accessories, of types, size and configurations required, whose products have been is satisfactory use in similar service for not less than 5 years.
- B. Installer's Qualifications: Firm with at least 3 years of successful installation experience on projects having flagpole installation work similar to that required for this project.

SPEC WRITER NOTE:

1. Modify the following paragraph to describe the various flagpoles for

this project. Provide the size, wind speeds, flag size and wall thickness for each flagpole size to be provided. Wind speed shall be the minimum specified in the wind speed chart for the project location.

2. Modify these specifications and coordinate with the drawings, details and notes to ensure that the flagpole foundation has been sized according to the applicable wind load conditions for the respective flags and poles, and that the foundation design has been performed by a qualified structural engineer, based upon the soil conditions, and installation method for the flagpole.
3. The spec writer shall ensure that the design A/E has had a professional engineer do the foundation design and specify all of the size, reinforcing, and installation parameters. The drawings and specifications should be modified and coordinated to reflect the designed foundation parameters.

C. Design Criteria: Flagpole shall be designed to withstand the wind speeds and conditions indicated herein for the specific flagpole and flag sizes indicated. The //7.6// m (//25// foot) flag pole shall be designed based upon a minimum sustained //160// kmph (//100// mph) wind velocity and minimum wind gust velocity of //210// kmph (//130// mph) when flying a flag //1.5m x 6.5m// (//5' x 8'//) in size in accordance with ANSI/NAAMM 1001-97, with the pole wall thickness being in conformance with the design standards but with a minimum wall thickness of //5//mm (//0.188// inches), whichever causes the stronger flagpole. The flagpole foundation(s) has/have been designed based upon applicable conditions for the project specific location of the respective flagpole.

1.7 PROTECTION AND SHIPPING

A. Package flagpole for shipping with spiral wrap protective covering and pack in shipping tubes acceptable to owner's designated representative and per manufacturer's recommendations.

PART 2 - PRODUCTS

SPEC WRITER NOTE:

1. Make material requirements agree with applicable requirements specified in the referenced Applicable Publications. Update and specify only that which applies to the project.

2.1 MATERIALS

- A. Aluminum, Extruded: ASTM B241, alloy 6063 - T6.
- B. Aluminum, Plate and Sheet: ASTM B209, alloy 1100.
- C. Stainless Steel: ASTM A167, Class 302 or 304.

2.2 FABRICATION

- A. Fabricate flagpole of seamless extruded aluminum tube, uniform conical taper of approximately 1 in 70, one centimeter in seventy centimeters (one inch in every 6 feet). Taper shall not exceed 50 percent of outside diameter of pole. When flagpoles are shipped in more than one section, provide self-aligning sleeves for field joint.
- B. Base: Aluminum plate or stainless steel, of stock design similar to that shown.
- C. Finial Ball: 2 mm (0.0747 inch) thick spun aluminum sphere, with seams of ball welded flush and watertight. Mount ball on threaded rod to fit truck. Diameter of ball shall be approximately same as pole butt diameter.
- D. Truck: Equip pole with extra heavy, revolving, non-fouling, ball bearing type truck with cast aluminum body and designed to accept an ornament on top.
- E. Halyards: Internal type cable assemblies. 3 mm (1/8") and/or 5 mm (3/16") stainless steel aircraft cable incorporating a stainless steel swivel, upper cable section, and flag arrangement with cable and two stainless steel quick links and two stainless steel swivel snaps. The cable assemblies shall be constructed to fit the flagpole size and flag size specified.
- F. Beaded Retainer Ring and Counterweights: Provide as recommended by manufacturer based on the pole size, flag size and design wind velocity. Provide recommended connection accessories.
- G. Internal Halyard Accessories: Furnish and install a gearless, self-locking at any point, direct drive winch that does not require welding for installation and does not require monthly application of lubrication and is attached to the pole with one stainless steel bolt on the back side of the pole. The unit shall be silver in color. Provide locking mechanism and two keys. Provide a winch handle designed for the unit. Pole shall be reinforced through the area of the winch opening by the manufacturer's standard reinforcement method.
- H. Foundation Tube: Hot dipped galvanized corrugated steel tube. Tube shall have a steel base plate and centering wedges and support plate

for connection of lightning kit. Bottom plate shall be a minimum of 5 mm (3/16") thickness.

SPEC WRITER NOTES:

1. Unless specifically directed otherwise by the PM, all of the flagpoles shall be designed and installed with the Manufacturer's best lightning kit system.

- I. Lightning Kit: Provide a complete kit (maximum protection available) for each pole. Configuration and components for the kit shall be as recommended by the pole manufacturer for use on the pole selected.

2.3 FINISH

- A. Finish exposed surfaces of flagpoles.
- B. Flagpole shaft: Satin brushed aluminum, then heavily waxed.
- C. Finial ball: Gold anodized aluminum, then heavily waxed.
- D. Base// and cleats//: Finish to match flagpole.
- //E. Stainless Steel (base): As recommended by flagpole manufacturer.//

PART 3 - EXECUTION

3.1 INSPECTION

- A. Verify that concrete foundation work is correctly sized and positioned.
- B. Repair or replace defective foundation work as directed by owner's designated representative.

3.2 PREPARATION

- A. Coat portions of flagpole below grade and in surfaces in contact with dissimilar metals with black asphaltum paint, as recommended by manufacturer.

3.3 INSTALLATION

- A. Install galvanized, corrugated steel sleeve or tube of detailed length, welded to steel base plates for installation in concrete. Set base plate and Lightning Kit in place before concrete is placed. Follow the manufacturer's recommendations for the installation of the lightning kits.
- B. Install foundation plate and centering wedges for flagpole base in concrete base and fasten.
- C. Install concrete foundation work to dimensions indicated in accordance with Section //03 30 53, SHORT FORM CAST-IN-PLACE CONCRETE//03 30 00, CAST-IN-PLACE CONCRETE//.
- D. Wrap top of sleeve with two layers of asphalt felt for distance of 600 mm (2 feet) down.

- E. Install flagpole in accordance with manufacturers written installation instructions. Install pole plumb using centering wedges.
- F. Backfill and compact excavation around flagpole base in accordance with Section 31 20 00, EARTH MOVING.
- G. Fill and thoroughly compact dry fine sand into the space between pole and steel sleeve and tamp to within 50 mm (2 inches) of top of sleeve.
- H. Remove temporary wood positioning wedges and fill upper 50 mm (2 inch) space between pole and steel sleeve with specified or manufacturer recommended waterproofing compound.
- I. Install fittings in accordance with manufacturer's written installation instructions.
- J. Check and adjust installed fittings for smooth operation of halyards.

3.2 LIGHTNING ROD

- A. Weld lightning ground rod of 19 mm (3/4-inch) diameter galvanized steel to base plate at bottom of sleeve or tube, and to steel support plate at grade.

3.3 CLEANUP

- A. After installation, carefully clean the flagpole and appurtenances, removing all dirt stains, and all other incident defacements.
 - 1. Fabricator should be contacted regarding the use of any cleaners and must approve of them before use.
 - 2. Protection of Finished Work: Flagpoles for this project shall be protected at all times during construction.
- B. Clean up area of excess material and debris.

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